On Some Recent Notes and Descriptions of Eriogoneæ in the Proceedings of the California Academy of Sciences.

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The present energetic and successful botanical collector of the California Academy of Sciences, Mrs. M. K. Curran, having lately undertaken the very different work of systematic description in the published Proceedings of the Academy, the views there presented naturally call for some notice in the current pages of botanical literature.

Having lately given some attention to the study of Eriogoneæ the writer was naturally much interested in seeing whatever new light might be thrown by recent discoveries on the difficult problems of systematic classification, and having been kindly favored with authentic specimens and published notes from the above source, the following suggestions are respectfully offered. The old difficulty of strictly defining genera and species, that in the now prevalent Darwinian view are genetically related, is only equally true of Eriogoneæ as of other more or less closely associated genera, and the only satisfactory solution is in a careful exercise of judgment based on extensive observation and experience. As Mr. Bentham, the most profound of modern botanical systematists, has wisely remarked, "Any tyro with a little practice can draw up long descriptions of *specimens*, fairly detailing every organ, but the selecting the characters necessary to give a good idea of a *species* in a short description requires a thorough knowledge of the subject and a methodical mind." In the brief pages 1–4 of the Calif. Acad. Proc. for 1885–86 Mrs. Curran claims to have data, mainly derived from her own recent discoveries, to invalidate some of the long established genera of Eriogoneæ, even at the risk of merging all into the single polymorphous genus Eriogonum. To properly substantiate such a claim we would naturally look for very important discoveries, but, as far as the pages referred to show, only two are brought to light. The first of these is a very well marked Eriogonum, closely related to the well-known *E. angulosum* Benth., showing in fact no essential difference either in involucral characters, or internal bracteoles, only indeed remarkable for the excessive wooliness encompassing the flowers, on which the very appropriate specific name, *E. gossipinum*, is based. On the strength of this normal species, however, Mrs. Curran proceeds at once to demolish the Nuttallian genus Nemacaulis, and hastily constructs a section of Eriogonum, "*Bracteolata*," in which it is snugly ensconced, being

somewhat strangely followed by a species (E. Greggii) which she knows only from description.

Having on a previous study of this genus carefully examined its character, and at one time even ventured to anticipate Mrs. Curran's conclusions in merging it into Eriogonum, as E. Nemacaulis, on the advice of other experienced botanists, a second sober thought induced me to withhold my rash hand, and while still seeing how a further development of involucral characters, by uniting the lower series of spiral bracts into a true whorl, would break down the generic distinction, till this is accomplished the genus may well stand as Prof. Gray suggested, one of the very best of the Eriogoneæ genera. Therefore I doubt not the botanical verdict will be in the case under consideration "not proven," and *Nemacaulis Nuttallii* Benth. will still escape an italicised reduction.

Coming next to Chorizanthe, the above writer, after designating two unimportant varieties, comes out with a detailed description of a minute, inconspicuous plant (barely three inches high), under the name of *Chorizanthe insignis*. Why so designated does not appear, either from the specimen or description. At the same time not a single character is given to keep it out of the genus Oxytheca, as at present defined, the entire absence of basal spurs, as well as an increased number of flowers, with obscure bracteoles at the base, clearly separating it from C. leptoceras, which it outwardly resembles, and, therefore, unmistakably a genuine Oxytheca, only approximating, as one would naturally expect, the allied but very distinct genus Chorizanthe. Having thus glanced at the descriptive work, we may go back to the preliminary views with which the descriptions are prefaced.

While realizing fully the difficulties that seem to crowd upon the path of discovery in the clear definition of the Eriogonous genera, we fail to get any light here in the confused statements made. Instead of which there are crude views of relationship, such as comparing the involucroid perianth (?) of Lastarriæa, with the entirely normal one of Hollisteria, to which it has not the most remote resemblance, and which the author of the genus failed to recognize in his clear description.

The "theory" of a reduced perianth in Chorizanthe Lastarriæa is demolished in a single paragraph by the inability of the writer to recognize under her microscope a character which the original describer clearly laid down, which is (perhaps in rather an exaggerated way) shown in the published plate, and which all subsequent descriptions have plainly stated, viz: a series of lobed appendages alternating with the stamens, reasonably representing

a reduced perianth. Only one other point in this connection, on which the writer feels competent to express an opinion. What Prof. Gray once suggested, but with an important reservation, might be the equivalent of an involucre in Lastarriæa in the subtending whorl of cauline bracts, is utterly inadmissible from the fact that besides the so-called perianth, they encircle invariably the extending axis, thus showing that it is a true cauline and not a floral appendage. This is also clearly not the case in Oxytheca luteola (or any other Eriogonous species), where as in the former case the irregular whorl of spines enclose only the cluster of bracted perianths.

In conclusion, may we not express the earnest hope, in the true interest of systematic botany, that before botanical science is loaded down with useless synonyms, or made obscure by crude speculations and rash innovations, those who venture to leap will first take a long and careful look.

Botanizing in Texas, I.

J. REVERCHON.

By "botanizing" I do not mean taking a railroad and stopping at such and such a station, taking a ramble or two in the neighboring hills, or sometimes jumping from the cars at a coal station, tempted by some tantalizing plant, and running back with only the top of said plant, at the call of the imperious whistle, and after that running may be a hundred miles before stopping again. That is not my way, as the railroads do not pass exactly where many nice things are found, and I don't care to be in a hurry.

So we started, my wife and I, and Robert Freeman, April 8, 1885, from our home in Dallas county. Freeman was a fine fellow, exactly fit for driving, hunting, fishing, and other duties invaluable on such a trip. Had we met some strayed Apaches or unruly Mexicans, he would have been equal to the emergency. Our covered wagon, drawn by a good team, was packed with provisions, drying papers, arms, etc. It would seem as if we were fixed to travel any length of time, and over any extent of country. I will not venture to describe our appearance, and must not forget that I am writing for botanists, anxious that I begin to botanize.

The evening sees us in the "Lower Cross-timbers," a vast belt of sandy post-oak land that extends a long distance north